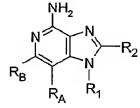
AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the present Application.

Listing of Claims

1. (Canceled)

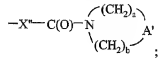
2. (Currently amended) A compound of the formula(II):



II

wherein:

R_1 is selected from the group consisting of:



;

X' is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene-, and -CH(R_9)-alkenylene-;

X" is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene-, and -CH(R_9)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R_1' and R_1" are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl, heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,

haloalkyl,

hydroxyalkyl,

alkoxy,

haloalkoxy,

halogen,

cyano,

nitro,

amino,

alkylamino,

dialkylamino,

arylsulfonyl, and

alkylsulfonyl;

A' is selected from the group consisting of -O-, -C(O)-, $-CH_2-$,$-S(O)_{0-2}-$, and $-N(Q-R_4)-$;

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

~~R_A and R_B are independently selected from the group consisting of:~~

~~hydrogen,~~

~~halogen,~~

~~alkyl,~~

~~alkenyl,~~

~~alkoxy,~~

~~alkylthio, and~~

~~$-N(R_9)_2$;~~

~~or~~ R_A and R_B are taken together to form either a fused aryl ring that is unsubstituted or substituted by one or more R_a groups, or a fused ~~5 to 7~~ 6-membered saturated ring that is unsubstituted or substituted by one or more R_c groups;

~~or R_A and R_B taken together form a fused heteroaryl or 5 to 7 membered saturated ring containing one heteroatom selected from the group consisting of N and S, wherein the heteroaryl ring is unsubstituted or substituted by one or more R_b groups, and the 5 to 7 membered saturated ring is unsubstituted or substituted by one or more R_c groups;~~

R_a is selected from the group consisting of :

halogen,

alkyl,

haloalkyl,

alkoxy, and

$-N(R_9)_2$;

~~R_b is selected from the group consisting of:~~

~~halogen,~~

~~hydroxy,~~

~~alkyl,~~

~~haloalkyl,~~

~~alkoxy, and~~

~~$-N(R_9)_2$;~~

R_c is selected from the group consisting of:

halogen,

hydroxy,

alkyl,

alkenyl,

haloalkyl,

alkoxy,

alkylthio, and

$-N(R_9)_2$;

R_2 is selected from the group consisting of:

hydrogen, alkyl, alkoxyalkyl, and hydroxyalkyl;

~~$-R_4$;~~

~~$-X-R_4$;~~

~~$-X-Y-R_4$; and~~

~~$-X-R_5$;~~

~~X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups are optionally interrupted or terminated by arylene, heteroarylene or heterocyclylene and optionally interrupted by one or more -O- groups;~~

~~Y is selected from the group consisting of:~~

~~$-S(O)_{0-2}-$~~ ,

~~$-S(O)_2-N(R_8)-$~~ ,

~~$-C(R_6)-$~~ ,

~~$-C(R_6)-O-$~~ ,

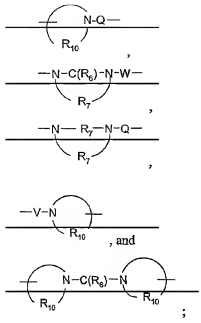
~~$-O-C(O)-O-$~~ ,

~~$-N(R_8)-Q-$~~ ,

~~$-C(R_6)-N(R_8)-$~~ ,

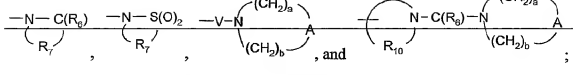
~~$-O-C(R_6)-N(R_8)-$~~ ,

~~$-C(R_6)-N(OR_9)-$~~ ,



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups are unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino) alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

~~R_5 is selected from the group consisting of :~~



R_6 is selected from the group consisting of =O and =S;

~~R_7 is C_{2-7} alkylene;~~

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

~~R_{10} is C_{2-8} alkylene ;~~

~~A is selected from the group consisting of -O -, -C(O) -, $-S(O)_{0-2}$ -, $-CH_2$ -, and $-(R_4)$ -;~~

Q is selected from the group consisting of a bond, $-C(R_6)$ -, $-C(R_6)-C(R_6)$-, $-S(O)_2$-, $-C(R_6)-N(R_8)$-W-, $-S(O)_2-N(R_8)$-, $-C(R_6)-O$-, and $-C(R_6)-N(OR_9)$-; and

~~V is selected from the group consisting of $-C(R_6)$ -, $-O-C(R_6)$ -, $-N(R_8)-C(R_6)$ -, and $-S(O)_2$-; and~~

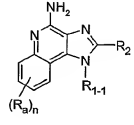
W is selected from the group consisting of a bond, -C(O)-, and $-S(O)_2$-;

~~with the proviso that when R_A and R_B form a fused heteroaryl or 5 to 7 membered saturated ring containing one heteroatom selected from the group consistingof N and S, wherein the heteroaryl ring is unsubstituted or substituted by one or more R_b groups, and the 5 to 7 membered saturated ring is unsubstituted or substituted by one or more R_c groups, then R_1 can also be -X"-C(O)-N(R_1')(R_1");~~

or a pharmaceutically acceptable salt thereof.

3. (Canceled)

4. (Currently amended) A compound of the formula (IV):

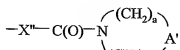


IV

wherein :

R_{1-1} is selected from the group consisting of:

-X'-C(O)-N(R_1')(R_1") and



;

X' is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene-, and -CH(R_9)-alkenylene-;

X" is selected from the group consisting of-CH(R_9)-, CH(R_9)-alkylene-, and -CH(R_9)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R_1' and R_1" are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl, heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,

haloalkyl,

hydroxyalkyl,

alkoxy,

haloalkoxy,

halogen,

cyano,

nitro,

amino,

alkylamino,

dialkylamino,

arylsulfonyl, and

alkylsulfonyl ;

A' is selected from the group consisting of -O-,-C(O)-, $-CH_2-$, $-S(O)_{0-2}-$, and $-N(Q-R_4)-$;

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

R_a is selected from the group consisting of:

halogen,

alkyl,

haloalkyl,

alkoxy, and

$-N(R_9)_2$

n is an integer from 0 to 4;

R_2 is selected from the group consisting of:

hydrogen, alkyl, alkoxyalkyl, and hydroxyalkyl;

~~$-R_4$;~~

~~$-X-R_4$;~~

~~$-X-Y-R_4$; and~~

~~$-X-R_5$;~~

~~X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups are optionally interrupted or terminated by arylene, heteroarylene or heterocyclylene and optionally interrupted by one or more -O- groups;~~

~~Y is selected from the group consisting of:~~

~~$-S(O)_{0-2}-$~~

~~$-S(O)_2-N(R_8)-$~~

~~-C(R$_6$)-,~~

~~-C(R$_6$)-O-,~~

~~-O-C(R$_6$)-,~~

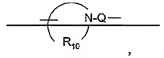
~~-O-C(O)-O-,~~

~~-N(R$_8$)-Q-,~~

~~-C(R$_6$)-N(R$_8$)-,~~

~~-O-C(R$_6$)-N(R$_8$)-,~~

~~-(R$_6$)-N(OR$_9$)-,~~



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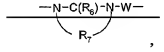

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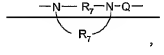

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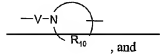

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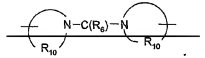
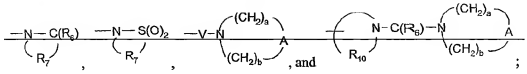


;

R$_4$ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups are unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino,

alkylamino, dialkylamino, (dialkylamino) alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

~~R_5 is selected from the group consisting of :~~



R_6 is selected from the group consisting of =O and =S;

~~R_7 is C_{2-7} alkylene;~~

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl ;

R_9 is selected from the group consisting of hydrogen and alkyl; and

~~R_{10} is C_{3-8} alkylene;~~

~~A is selected from the group consisting of -O-, -C(O)-, $-S(O)_{0-2}$-, $-CH_2$-, and $-N(R_4)$-;~~

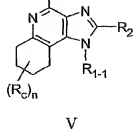
Q is selected from the group consisting of a bond, $-C(R_6)$-, $-C(R_6)-C(R_6)$-, $-S(O)_2$-, $-C(R_6)-N(R_8)$-W-, $-S(O_2-N(R_8)$-, $-C(R_6)$-O-, and $-C(R_6)-N(OR_9)$-;

~~V is selected from the group consisting of $-C(R_6)=$, $-O-C(R_6)=$, $-N(R_8)-C(R_6)=$, and $-S(O)_2$-; and~~

W is selected from the group consisting of a bond, -C(O)-, and $-S(O)_2$-;

or a pharmaceutically acceptable salt thereof.

5. (Currently amended) The compound or salt of claim 2 wherein the compound is of the following formula (V):

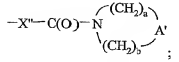


V

wherein:

$R_{1\text{-}1}$ is selected from the group consisting of:

-X'-C(O)-N(R_1')(R_1") and



;

X' is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene-, and -CH(R_9)-alkenylene- ;

X" is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene-, and –CH(R_9)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups ;

R_1' and R_1" are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl, heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,

haloalkyl,

hydroxyalkyl,

alkoxy,

haloalkoxy,

halogen,

cyano,

nitro,

amino,

alkylamino,

dialkylamino,

arylsulfonyl, and

alkylsulfonyl;

A' is selected from the group consisting of -O-, -C(O)-, $-CH_2-$, $-S(O)_{0-2}-$, and $-N(Q-R_4)-$;

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

R_c is selected from the group consisting of:

halogen,

hydroxy,

alkyl,

alkenyl,

haloalkyl,

alkoxy,

alkylthio, and

$-N(R_9)_2$;

n is an integer from 0 to 4;

R_2 is selected from the group consisting of:

hydrogen, alkyl, alkoxyalkyl, and hydroxyalkyl;

~~$-R_4$;~~

~~$-X-R_4$;~~

~~$-X-Y-R_4$; and~~

~~$-X-R_5$;~~

~~X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups are~~

~~optionally interrupted or terminated by arylene, heteroarylene or heterocyclylene and optionally interrupted by one or more -O- groups;~~

~~Y is selected from the group consisting of:~~

~~-$S(O)_{0-2}$-,~~

~~-$S(O)_2N(R_8)$-,~~

~~-(R_6)-, -$C(R_6)$-O-,~~

~~-O-$C(R_6)$-,~~

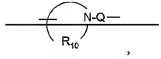
~~-O-C(O)-O-,~~

~~-$N(R_8)$-Q-,~~

~~-$C(R_6)$-$N(R_8)$-,~~

~~-O-$C(R_6)$-$N(R_8)$-,~~

~~-$C(R_6)$-$N(OR_9)$-,~~



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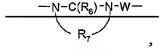

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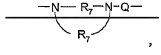

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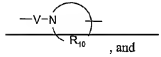

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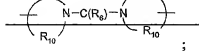
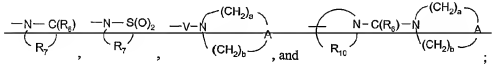


;

R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups are unsubstituted or

substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino) alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

~~R_5 is selected from the group consisting of :~~



R_6 is selected from the group consisting of =O and =S;

~~R_7 is C_{2-7} alkylene;~~

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl; and

~~R_{10} is C_{2-8} alkylene;~~

~~A is selected from the group consisting of $-O-$, $-C(O)-$, $-S(O)_{0-2}-$, $-CH_2-$, and $-N(R_4)-$;~~

Q is selected from the group consisting of a bond, $-C(R_6)-$, $-C(R_6)-C(R_6)-$, $-S(O)_2-$, $-C(R_6)-N(R_8)-W-$, $-S(O)_2-N(R_8)-$, $-C(R_6)-O-$, and $-C(R_6)-N(OR_9)-$;

~~V is selected from the group consisting of $-C(R_6)-$, $-O-C(R_6)-$, $-N(R_5)-C(R_6)-$, and $-S(O)_2-$;~~ and

W is selected from the group consisting of a bond, $-C(O)-$, and $-S(O)_2-$;

or a pharmaceutically acceptable salt thereof.

6.-11. (Canceled)

12. (Previously presented) The compound or salt of claim 4 wherein n is 0.

13. (Canceled)

14. (Previously presented) The compound or salt of claim 2 wherein X' is -CH_2-C_{0-10} alkylene- or X"is -CH_2-C_{0-10} alkylene- or -CH_2-C_{1-4} alkylene-O-C_{1-4} alkylene-.

15. (Canceled)

16. (Previously presented) The compound or salt of claim 14 wherein X' is -$(CH_2)_{1-5}$-, -$CH_2C(CH_3)_2$-, or -$CH_2C(CH_3)_2CH_2$-; or X" is -$(CH_2)_{1-5}$-, -$CH_2C(CH_3)_2$-, -$CH_2C(CH_3)_2CH_2$-, or -$(CH_2)_3$-O-CH_2-.

17.-25. (Canceled)

26. (Previously presented) The compound or salt of claim 2 wherein R_1 is hydrogen.

27. (Previously presented) The compound or salt of claim 26 wherein R_1' is hydrogen or C_{1-3} alkyl.

28. (Previously presented) The compound or salt of claim 27 wherein R_1' and R_1" are hydrogen.

29.-30. (Canceled)

31. (Previously presented) The compound or salt of claim 2 wherein R_2 is hydrogen, C_{1-4} alkyl, hydroxy C_{1-4} alkylenyl, or C_{1-4} alkyl-O-C_{1-4} alkylenyl.

32. (Canceled)

33. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 2 and a pharmaceutically acceptable carrier.

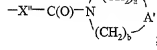
34. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 2 to the animal.

35. (Withdrawn) A method of treating a viral disease in an animal in need thereof comprising administering a therapeutically effective amount of a compound or salt of claim 2 to the animal.

36. (Withdrawn) A method of treating a neoplastic disease in an animal in need thereof comprising administering a therapeutically effective amount of a compound or salt of claim 2 to the animal.

37.-44. (Canceled)

45. (Previously presented) The compound or salt of claim 4 wherein $R_{1\text{-}1}$ is



; A' is -O-, and a and b are each 2.

46. (Previously presented) The compound or salt of claim 4 wherein X is $-CH_2-C_{0\text{-}10}$ alkylene- or X" is $-CH_2-C_{0\text{-}10}$ alkylene- or $-CH_2-C_{1\text{-}4}$alkylene-O-$C_{1\text{-}4}$ alkylene-.

47. (Previously presented) The compound or salt of claim 46 wherein X is $-(CH_2)_{1\text{-}5}$-, $-CH_2C(CH_3)_2$-, or $-CH_2C(CH_3)_2CH_2$-; or X" is $-(CH_2)_{1\text{-}5}$-, $-CH_2C(CH_3)_2$-, $-CH_2C(CH_3)_2CH_2$-, or $-(CH_2)_3-CH_2$-.

48. (Previously presented) The compound or salt of claim 4 wherein R_1 is hydrogen.

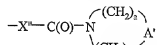
49. (Previously presented) The compound or salt of claim 48 wherein R_1 is hydrogen or $C_{1\text{-}3}$ alkyl.

50. (Previously presented) The compound or salt of claim 49 wherein R_1' and R_1" are hydrogen.

51. (Previously presented) The compound or salt of claim 4 wherein R_2 is hydrogen, C_{1-4} alkyl, hydroxy C_{1-4} alkylenyl, or C_{1-4} alkyl-O-C_{1-4} alkylenyl.

52. (Previously presented) The compound or salt of claim 5 wherein n is 0.

53. (Previously presented) The compound or salt of claim 5 wherein R_{1-1} is



; A' is -O-, and a and b are each 2.

54. (Previously presented) The compound or salt of claim 5 wherein X is -CH_2-C_{0-10} alkylene- or X" is -CH_2-C_{0-10} alkylene- or -CH_2-C_{1-4} alkylene-O-C_{1-4} alkylene-.

55. (Previously presented) The compound or salt of claim 5 wherein R_1" is hydrogen.

56. (Previously presented) The compound or salt of claim 55 wherein R_1' is hydrogen or C_{1-3} alkyl.

57. (Previously presented) The compound or salt of claim 56 wherein R_1' and R_1" are hydrogen.

58. (Previously presented) The compound or salt of claim 5 wherein R_2 is hydrogen, C_{1-4} alkyl, hydroxyC_{1-4} alkylenyl, or C_{1-4} alkyl-O-C_{1-4} alkylenyl.

59.-63. (Canceled)

64. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 4 and a pharmaceutically acceptable carrier.

65. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 5 and a pharmaceutically acceptable carrier.

66.-67. (Canceled)

68. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 4 to the animal.

69. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 5 to the animal.

70. (Canceled)